RF Exposure Evaluation Declaration

Product Name	:	Wireless Access Point
Model No.	:	AP305C
FCC ID	:	QXO-AP305CNB

Applicant	:	Extreme Networks, Inc
Address	:	6480 Via Del Oro, San Jose, CA 95119

Date of Receipt	:	Apr. 11, 2022
Test Date	:	Apr. 12, 2022 ~ Apr. 27, 2022
Issued Date	:	May. 19, 2022
Report No.	:	2230990R-RF-US-P20V02

NOTE: The EUT used in this report and the 1962097R-RF-US-P20V02report are the same model. The difference is that the EUT used this time removes the BLE chip. The output power test results are not worse than 1962097R-RF-US-P20V02, so the test data in this report refer to the data of 1962097R-RF-US-P20V02.

Test Report Certification

Issued Date: May. 19, 2022
Report No.: 2230990R-RF-US-P20V02

Product Name	:	Wireless Access Point
Applicant	:	Extreme Networks, Inc
Address	:	6480 Via Del Oro, San Jose, CA 95119
Manufacturer	:	Extreme Networks, Inc
Address	:	6480 Via Del Oro, San Jose, CA 95119
Model No.	:	AP305C
Brand	:	Extreme Networks
FCC ID	:	QXO-AP305CNB
EUT Voltage	:	DC37-57V
Applicable Standard	:	KDB 447498D01V06 FCC Part1.1310
Test Result	:	Complied
Performed Location	:	DEKRA Testing and Certification (Suzhou) Co., Ltd. No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098 FCC Designation Number: CN1199

Documented By : Tim. Cao

(Project Engineer: Tim Cao)

Approved By : Jack Zhang

(Engineer Supervisor: Jack Zhang)

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm2)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4*pi*r2)

Where

Pd = power density in mW/cm2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18℃and 78％ RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	Wireless Access Point
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

Antenna Information:

2.4G:

AP305C:

Antenna Model No.	N/A					
Antenna Manufacturer	N/A					
Antenna Delivery	☒	1*TX+1*RX	☒	2*TX+2*RX	☐	3*TX+3*RX
Antenna Technology	☒	SISO				
	☒	MIMO	☐	Basic methodology		
			☐	Sectorized antenna systems		
			☐	Cross-polarized antennas		
			☐	Unequal antenna gains, with equal transmit powers		
			☒	Spatial Multiplexing		
			☒	Cyclic Delay Diversity (CDD)		
Antenna Type	PIFA					
Antenna Gain						

Antenna Technology			Ant Gain(eth1) (dBi)
☒	SISO	☒ Ant1	2.67
		☒ Ant2	2.37
☒	CDD		2.67dBi for Power; 5.67dBi for PSD
☒	Beam-forming		5.67dBi for Power; 5.67dBi for PSD

5G:

AP305C:

<table>
<tr><td colspan="3">Antenna Model No.</td><td colspan="5">N/A</td></tr>
<tr><td colspan="3">Antenna Manufacturer</td><td colspan="5">N/A</td></tr>
<tr><td colspan="3">Antenna Delivery</td><td colspan="5">☒ 1*TX+1*RX ☒ 2*TX+2*RX ☐ 3*TX+3*RX</td></tr>
<tr><td colspan="3" rowspan="7">Antenna Technology</td><td colspan="5">☒ SISO</td></tr>
<tr><td rowspan="6">☒ MIMO</td><td>☐</td><td colspan="3">Basic methodology</td></tr>
<tr><td>☐</td><td colspan="3">Sectorized antenna systems</td></tr>
<tr><td>☐</td><td colspan="3">Cross-polarized antennas</td></tr>
<tr><td>☐</td><td colspan="3">Unequal antenna gains, with equal transmit powers</td></tr>
<tr><td>☒</td><td colspan="3">Spatial Multiplexing</td></tr>
<tr><td>☒</td><td colspan="3">Cyclic Delay Diversity (CDD)</td></tr>
<tr><td colspan="3">Antenna Type</td><td colspan="5">PIFA</td></tr>
<tr><td colspan="8">Antenna Gain</td></tr>
<tr><td colspan="3">Antenna Technology</td><td colspan="5">Ant Gain(eth1)
(dBi)</td></tr>
<tr><td rowspan="2">☒ SISO</td><td rowspan="2">☒ Ant1</td><td rowspan="2">☒ Ant2</td><td colspan="5">3.97</td></tr>
<tr><td colspan="5">3.45</td></tr>
<tr><td colspan="3">☒ CDD</td><td colspan="5">3.97dBi for Power; 6.97dBi for PSD</td></tr>
<tr><td colspan="3">☒ Beam-forming</td><td colspan="5">6.97dBi for Power; 6.97dBi for PSD</td></tr>
<tr><td colspan="3">Antenna Technology</td><td colspan="5">Ant Gain(eth2)
(dBi)</td></tr>
<tr><td rowspan="2">☒ SISO</td><td rowspan="2">☒ Ant3</td><td rowspan="2">☒ Ant4</td><td colspan="5">3.75</td></tr>
<tr><td colspan="5">2.95</td></tr>
<tr><td colspan="3">☒ CDD</td><td colspan="5">3.75dBi for Power; 6.75dBi for PSD</td></tr>
<tr><td colspan="3">☒ Beam-forming</td><td colspan="5">6.75dBi for Power; 6.75dBi for PSD</td></tr>
</table>

Power Density

Standalone modes:

AP305C:

Test Mode	Frequency Band (MHz)	Maximum EIRP (dBm)	Power Density at R = 20cm (mW/cm2)	Power Density Limit at R = 20 cm (mW/cm2)
802.11b/g/n/ac/ax	2400 ~ 2483.5	28.23	0.132	1.0
802.11a/n/ac/ax(Eth1)	5150 ~ 5350	29.40	0.173	1.0
802.11a/n/ac/ax(Eth2)	5150 ~ 5350 5470 ~ 5850	29.86	0.193	1.0

Simultaneous transmission:

AP305C:

Wireless Configure	Frequency Range (MHz)	Maximum EIRP (dBm)	Limit of Power Density S(mW/cm2)	Power Density S at R = 20 cm (mW/cm2)	Rate	Limit
WIFI(Eth1)	5150 ~ 5350	29.40	1.0	0.173	0.366	1
WIFI(Eth2)	5470 ~ 5850	29.86	1.0	0.193		

The EUT support simultaneously transmit with WIFI 2.4G+5G, WIFI 5G+WIFI 5G.

The worst combination should be shown in the report. The simultaneously safety distance is 20cm for installed for Wireless Access Point without any other radio equipment.

The End